EXHIBIT BW

Sonos's Claim Chart
U.S. Patent No. 10,116,641

Claim: 1	Chromecast-Enabled Computing Devices
Tangible, non-transitory, computer-readable media having instructions encoded therein, wherein the instructions, when executed by one or more processors, cause a control device of a media playback system to perform a method comprising:	Google's line of Chromecast-enabled audio players includes, *inter alia*, the Google Home Mini, the Google Home, the Google Home Max, the Google Home Hub, and the Chromecast dongles, and these Chromecast-enabled audio players are controlled by smartphones, tablets, and computers installed with the Google Home app, the Google Play Music app, and/or other Chromecast-enabled apps (where a computing device installed with at least one of these apps is referred to herein as a "Chromecast-enabled computing device"). Each of the foregoing Chromecast-enabled audio players comprises a "playback device" as recited in claim 1, a Chromecast-enabled playback system including one or more Chromecast-enabled audio players and one or more Chromecast-enabled computing devices on the same LAN comprises a "media playback system" as recited in claim 1, each Chromecast-enabled computing device comprises a "control device of a media playback system" that includes tangible, non-transitory computer-readable media as recited in claim 1, and Google's Cloud Platform comprises a "computing system" as recited in claim 1. *See, e.g.,* https://developers.google.com/cast/docs/android_sender/queueing; https://developers.google.com/cast/docs/ios_sender/queueing; https://developers.google.com/cast/docs/caf_receiver/queuing; https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.QueueBase.
transmitting, over a network interface to a computing system, a request to access a first cloud queue that includes a given pre-defined playlist of audio tracks, wherein the first cloud queue is accessible to the media playback system via a wide area network;	A Chromecast-enabled computing device includes tangible, non-transitory computer-readable media comprising instructions that, when executed by the device's one or more processors, cause the Chromecast-enabled computing device to transmit, over a network interface to a computing system (e.g., Google's Cloud Platform), a request to access a first cloud queue that includes a given pre-defined playlist of audio tracks, where the first cloud queue is accessible to the Chromecast-enabled playback system via a wide area network (WAN). For instance, a Chromecast-enabled computing device is programmed with the capability to transmit a request to access a cloud queue that includes a pre-defined playlist of audio tracks from a computing system that is accessible to the Chromecast-enabled playback system via a WAN, such as a cloud queue maintained by Google's Cloud Platform that includes a Google Play Music playlist. *See, e.g.,* https://developers.google.com/cast/docs/android_sender/queueing; https://developers.google.com/cast/docs/ios_sender/queueing; https://developers.google.com/cast/docs/caf_receiver/queuing; https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.QueueBase; https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.QueueManager; https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueItem; https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueData;

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	https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueLoadRequestData.
after transmitting the request to access the first cloud queue, receiving, over the network interface from the computing system, an indication of one or more first media items of the first cloud queue and an indication of one or more first playback policies associated with pre-defined playlists, wherein the one or more first playback policies authorize the media playback system to perform a particular set of one or more first playback operations on the first cloud queue when a pre-defined playlist is queued in the first cloud queue;	A Chromecast-enabled computing device includes tangible, non-transitory computer-readable media comprising instructions that, when executed by the device's one or more processors, cause the Chromecast-enabled computing device to, after transmitting the request to access the first cloud queue, receive, over the network interface from a computing system (e.g., Google's Cloud Platform), an indication of one or more first media items of the first cloud queue and an indication of one or more first playback policies associated with pre-defined playlists, where the one or more first playback policies authorize the Chromecast-enabled playback system to perform a particular set of one or more first playback operations on the first cloud queue when a pre-defined playlist is queued in the first cloud queue. For instance, a Chromecast-enabled computing device is programmed such that, after transmitting a request to access a cloud queue that includes a pre-defined playlist of songs (e.g., a Google Play Music playlist), the Chromecast-enabled computing device has the capability to receive, from a computing system (e.g., Google's Cloud Platform), an indication of one or more audio tracks of the cloud queue and an indication of one or more playback policies associated with pre-defined playlists that authorize the Chromecast-enabled playback system to perform one set of playback operations on a pre-defined playlist that is queued in the cloud queue, such as a set of playback operations that allow for playing, pausing, skipping forward, and skipping backwards. *See, e.g.,* https://developers.google.com/cast/docs/android_sender/queueing; https://developers.google.com/cast/docs/ios_sender/queueing; https://developers.google.com/cast/docs/caf_receiver/queuing; https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.QueueBase; https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.QueueManager; https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueItem; https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueData; https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueLoadRequestData.
while the first cloud queue is being accessed, causing a graphical display to display a control interface comprising playback controls corresponding to the one or	A Chromecast-enabled computing device includes tangible, non-transitory computer-readable media comprising instructions that, when executed by the device's one or more processors, cause the Chromecast-enabled computing device to, while the first cloud queue is being accessed, cause the Chromecast-enabled computing device's graphical display to display a control interface comprising playback controls corresponding to the one or more first playback operations.

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more first playback operations;	For instance, a Chromecast-enabled computing device is programmed such that, while accessing a cloud queue that is loaded with a pre-defined playlist, the Chromecast-enabled computing device is capable of causing its graphical display to display a user interface that includes playback controls corresponding to the set of playback operations that are permitted for the pre-defined playlist, such as playback controls for playing, pausing, skipping forward, and skipping backward. Some examples of this functionality are illustrated in the following screenshots:
transmitting, over the network interface to the computing system, a request to access a second cloud queue that includes a given internet radio station;	A Chromecast-enabled computing device includes tangible, non-transitory computer-readable media comprising instructions that, when executed by the device's one or more processors, cause the Chromecast-enabled computing device to transmit, over the network interface to a computing system (e.g., Google's Cloud Platform), a request to access a second cloud queue that includes a given internet radio station. For instance, a Chromecast-enabled computing device is programmed with the capability to transmit a request to access a cloud queue that includes a given internet radio station from a computing system that is accessible to the Chromecast-enabled playback system via a WAN, such as a cloud queue maintained by Google's Cloud Platform that includes a Google Play Music radio station. *See, e.g.,* https://developers.google.com/cast/docs/android_sender/queueing;

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	https://developers.google.com/cast/docs/ios_sender/queueing; https://developers.google.com/cast/docs/caf_receiver/queuing; https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.QueueBase; https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.QueueManager; https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueItem; https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueData; https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueLoadRequestData.
after transmitting the request to access the second cloud queue, receiving, over the network interface from the computing system, an indication of one or more second media items of the second cloud queue and an indication of one or more second playback policies associated with internet radio stations, wherein the one or more second playback policies authorize the media playback system to perform a particular set of one or more second playback operations on the second cloud queue when an internet radio station is queued in the second cloud queue; and	A Chromecast-enabled computing device includes tangible, non-transitory computer-readable media comprising instructions that, when executed by the device's one or more processors, cause the Chromecast-enabled computing device to, after transmitting the request to access the second cloud queue, receive, over the network interface from a computing system (e.g., Google's Cloud Platform), an indication of one or more second media items of the second cloud queue and an indication of one or more second playback policies associated with internet radio stations, where the one or more second playback policies authorize the Chromecast-enabled playback system to perform a particular set of one or more second playback operations on the second cloud queue when an internet radio station is queued in the second cloud queue.

For instance, a Chromecast-enabled computing device is programmed such that, after transmitting a request to access a cloud queue that includes a given internet radio station (e.g., a Google Play Music radio station), the Chromecast-enabled computing device has the capability to receive, from computing system (e.g., Google's Cloud Platform), an indication of one or more audio tracks of the cloud queue that includes the given internet radio station and an indication of one or more playback policies associated with internet radio stations that authorize the Chromecast-enabled playback system to perform a different set of playback operations on an internet radio station that is queued in a cloud queue, such as a set of playback operations that allow for playing, pausing, and skipping forward, but not skipping backwards. *See, e.g.,* https://developers.google.com/cast/docs/android_sender/queueing; https://developers.google.com/cast/docs/ios_sender/queueing; https://developers.google.com/cast/docs/caf_receiver/queuing; https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.QueueBase; https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.QueueManager; https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueItem; https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueData; https://developers.google.com/cast/docs/reference/caf_receiver/cast.framework.messages.QueueLoadRequestData. |

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while the second cloud queue is being accessed, causing the graphical display to display the control interface comprising playback controls corresponding to the one or more second playback operations, wherein the control interface comprising playback controls corresponding to the one or more first playback operations is different from the control interface comprising playback controls corresponding to the one or more second playback operations.	A Chromecast-enabled computing device includes tangible, non-transitory computer-readable media comprising instructions that, when executed by the device's one or more processors, cause the Chromecast-enabled computing device to, while the second cloud queue is being accessed, causing the graphical display to display the control interface comprising playback controls corresponding to the one or more second playback operations, where the control interface comprising playback controls corresponding to the one or more first playback operations is different from the control interface comprising playback controls corresponding to the one or more second playback operations. For instance, a Chromecast-enabled computing device is programmed such that, while accessing a cloud queue that is loaded with a given radio station, the Chromecast-enabled computing device is capable of causing its graphical display to display a user interface that includes playback controls corresponding to the different set of playback operations that are permitted for the given internet radio station, such as playback controls for playing, pausing, and skipping forward, but not skipping backward. Some examples of this functionality are illustrated in the following screenshots: